





INFORMATION DISCLOSURE CITATION IN AN APPLICATION					Docket Number 23435-007-403		Application Number 10/705,861	
					Applicant(s) Randall B. METCALF			
Form PTO-1449					Filing Date November 13, 2003		Group Art Unit 2837	
U.S. PATENT DOCUMENTS								
EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
[Signature]	1A	3,158,695	11/24/1964	Camran	369	81		
	1B	4,105,885	08/08/1978	Gulbory	179	1		
	1C	4,408,095	11/04/1983	Angs et al.	381	24		
	1D	4,422,048	12/20/1983	Edwards	330	109		
	1E	4,481,650	11/06/1984	De Koning et al.	381	58		
	1F	5,260,920	11/09/1992	Ide et al.	389	5		
	1G	5,452,350	08/18/1995	Yamashita et al.	381	63		
	1H	5,740,260	04/14/1998	Odum	381	119		
	1I	5,781,645	07/14/1998	Beale	381	182		
	1J	5,822,438	10/13/1998	Sekine et al.	381	17		
FOREIGN PATENT DOCUMENTS								
	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES NO	
[Signature]	1K	5 593 278 A	04/20/1994	EUROPE				
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)								
[Signature]	1L	AMATIGAIN et al., "Transmitting Audio Content as Sound Objects", AES 22 <sup>nd</sup> International Conference on Virtual, Synthetic and Entertainment Audio, Music Technology Group, IUA, UPF, Barcelona, Spain, pages 1-11.						
	1M	AMUNDSEN, "The Propagator Matrix Related to the Kirchhoff-Heimholtz Integral in Inverse Wavefield Extrapolation", Geophysics, Volume 59, No. 11, December 1994, pages 1902-1909.						
	1N	AVANZINI et al., "Controlling Material Properties in Physical Models of Sounding Objects", CMC 01-1 Revised Version, pages 1-4.						
	1O	BOONE, "Acoustic Rendering with Wave Field Synthesis", Presented at Acoustic Rendering for Virtual Environments, Snowbird, UT, May 26-29, 2001, pages 1-9.						
	1P	BUDNIK, "Discretizing the Wave Equation", In <i>What is and what will be: Integrating Spirituality and Science</i> , Retrieved July 3, 2003, from <a href="http://www.ntmath.com/whatish/node47.html">http://www.ntmath.com/whatish/node47.html</a> , 12 pages.						
	1Q	CAMPOS, et al., "A Parallel 3D Digital Waveguide Mesh Model with Tetrahedral Topology for Room Acoustic Simulation", Proceedings of the COST G-6 Conference on Digital Audio Effects (DAFx-00), Verona, Italy, December 7-9, 2000, pages 1-6.						
	1R	CAULKINS et al., "Wave Field Synthesis Interaction with the Listening Environment, Improvements in the Reproduction of Virtual Sources Situated inside the Listening Room", Proc. of the 6 <sup>th</sup> Int. Conference on Digital Audio Effects (DAFx-03), London, U.K., September 8-11, 2003, pages 1-4.						
	1S	CHOPARD et al., "Wave Propagation in Urban Microcells: A Massively Parallel Approach Using the TLM Method", Retrieved July 3, 2003, from <a href="http://cui.unige.ch/~luthi/links/lin/tlm.html">http://cui.unige.ch/~luthi/links/lin/tlm.html</a> , 1 page.						
	1T	COREY et al., "An Integrated Multidimensional Controller of Auditory Perspective in a Multichannel Soundfield", presented at the 111 <sup>th</sup> Convention of the Audio Engineering Society, New York, New York, pages 1-10.						
	EXAMINER: [Signature] DATE CONSIDERED: 7/24/06							
EXAMPLE: Indicate if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.								

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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
	2A	DAVIS, "History of Spatial Coding", <i>Journal of the Audio Engineering Society</i> , Volume 51, No. 6, June 2003, pages 654-669.					
	2B	GU POLI et al., "Abstract Musical Timbre and Physical Modeling", June 21, 2002, pages 1-21.					
	2C	DE VRIES et al., "Auralization of Sound Fields by Wave Field Synthesis", <i>Laboratory of Acoustic Imaging and Sound Control</i> , pages 1-10.					
	2D	DE VRIES et al., "Wave Field Synthesis and Analysis Using Array Technology", <i>Proc. 1999 IEEE Workshop on Applications of Signal Processing to Audio and Acoustics</i> , New Paltz, New York, Oct. 17-20, 1999, pages 15-18.					
	2E	FARINA et al., "Realization of Virtual Musical Instruments: Measurements of the Impulse Response of Violins Using MLS Technique", 9 pages.					
	2F	FARINA et al., "Subjective Comparisons of Virtual Violins Obtained by Convolution", 5 pages.					
	2G	HOLT, "Surround Sound: The Four Reasons", <i>The Absolute Sound</i> , April/May 2002, pages 31-33.					
	2H	HORBACH et al., "Numerical Simulation of Wave Fields Created by Loudspeaker Arrays", <i>Audio Engineering Society 107th Convention</i> , New York, New York, September 1999, pages 1-16.					
	2I	KLEINER et al., "Emerging Technology Trends in the Areas of the Technical Committees of the Audio Engineering Society", <i>Journal of the Audio Engineering Society</i> , Volume 51, No. 5, May 2003, pages 442-451.					
	2J	LANDONE et al., "Issues in Performance Prediction of Surround Systems in Sound Reinforcement Applications", <i>Proceedings of the 2nd COST G-6 Workshop on Digital Audio Effects (DAFx99)</i> , NTNU, Trondheim, December 9-11, 1999, 6 pages.					
	2K	LOKKI et al., "The DIVA Auralization System", <i>Helsinki University of Technology</i> , pages 1-4.					
	2L	"Lycoos Asia Malaysia - News", printed on December 3, 2001, from <a href="http://lycoosnews.lycoosasia.com/my/">http://lycoosnews.lycoosasia.com/my/</a> , 3 pages.					
	2M	MARTIN, "Toward Automatic Sound Source Recognition: Identifying Musical Instruments", presented at the NATO Computational Hearing Advanced Study Institute, II Ciocco, Italy, July 1-12, 1998, pages 1-6.					
	2N	MELCHIOR et al., "Authoring System for Wave Field Synthesis Content Production", presented at the 115th Convention of the Audio Engineering Society, New York, New York, October 10-13, 2003, pages 1-10.					
EXAMINER		DATE CONSIDERED					
[Signature]		7/26/06					
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		23435-007-403	10/705,661				
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FOREIGN PATENT DOCUMENTS							
	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES NO
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	3A	MILLER-DALY, "What You Need to Know About 3D Graphics/Virtual Reality: Augmented Reality Explained", retrieved December 6, 2003, from <a href="http://www.3dabout.com/library/weekly/aa012303a.htm">http://www.3dabout.com/library/weekly/aa012303a.htm</a> , 3 pages.					
	3B	MULLER-TOMPELDE, "Hybrid Sound Reproduction in Audio-Augmented Reality", AES 22 <sup>nd</sup> International Conference on Virtual, Synthetic and Entertainment Audio, pages 1-4.					
	3C	NEUMANN et al., "Augmented Virtual Environments (AVE) for Visualization of Dynamic Imagery", Integrated Media Systems Center, Los Angeles, California, 5 pages.					
	3D	"New Media for Music: An Adaptive Response to Technology", Journal of the Audio Engineering Society, Volume 51, No. 6, June 2003, pages 575-577.					
	3E	NICOL et al., "Reproducing 3D-Sound for Videoconferencing: a Comparison Between Holophony and Ambisonic", France Telecom CNET Lannion, 4 pages.					
	3F	RIEGELSDERGER et al., "Advancing 3D Audio Through an Acoustic Geometry Interface", 6 pages.					
	3G	"Brains of Deaf People Rewire to 'Hear' Music", ScienceDaily Magazine, University of Washington, November 28, 2001, 2 pages.					
	3H	SMITH, "Deaf People Can 'Feel' Music: Might Explain How Some Are Able to Become Performers", retrieved December 3, 2001, from <a href="http://my.webmd.com/brain/entrate/1930.50576">http://my.webmd.com/brain/entrate/1930.50576</a> , 1 page.					
	3I	SANTACCHI et al., "Enhanced 3D Sound Field Synthesis and Reproduction System by Compensating Interfering Reflections", Proceedings of the COST G-6 Conference on Digital Audio Effects (DAFX-00, Verona, Italy, December 7-9, 2000, pages 1-6.					
	3J	SPORS et al., "High-Quality Acoustic Rendering with Wave Field Synthesis", University of Erlangen-Nuremberg, Erlangen, Germany, November 20-22, 2002, 6 pages.					
	3K	THEILE, "Spatial Perception in WFS Rendered Sound Fields", 2 pages.					
	3L	THEILE et al., "Potential Wavefield Synthesis Applications in the Multichannel Stereophonic World", AES 24 <sup>th</sup> International Conference on Multichannel Audio, pages 1-15.					
	3M	TOOLE, "Direction and Space, the Final Frontier: How Many Channels do We Need to be Able to Believe that We are 'There'?", Harman International Industries, Northridge, California, pages 1-30.					
	3N	TOOLE, "Audio-Science in the Service of Art," Harman International Industries, Northridge, California, pages 1-23.					
EXAMINER				DATE CONSIDERED			
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<b>FOREIGN PATENT DOCUMENTS</b>							
	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES NO
<b>OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)</b>							
	4A	TSINGOS <i>et al.</i> , "Validation of Acoustical Simulations in the 'Bell Labs Box'", Bell Laboratories-Lucant Technologies, 7 pages.					
	4B	University of York Music Technology Research Group, "Surrounded by Sound--A Sonic Revolution", retrieved February 10, 2004, from <a href="http://www.users.york.ac.uk/~dm3/RS/RSweb.htm">http://www.users.york.ac.uk/~dm3/RS/RSweb.htm</a> , 7 pages.					
	4C	VAANANEN, "User Interaction and Authoring of 3D Sound Scenes in the Carrouso EU Project", Audio Engineering Society Convention Paper 5764, Presented at the 114 <sup>th</sup> Convention, March 22-25, 2003, pages 1-9.					
	4D	VAANANEN <i>et al.</i> , "Encoding and Rendering of Perceptual Sound Scenes in the Carrouso Project", AES 22 <sup>nd</sup> International Conference on Virtual, Synthetic and Entertainment Audio, pages 1-9.					
	4E	"Virtual and Synthetic Audio: The Wonderful World of Sound Objects", <i>Journal of Audio Engineering Society</i> , Volume 51, No. 1/2, January/February 2003, pages 93-98.					
	4F	WITTEK, "Optimised Phantom Source Imaging of the High Frequency Content of Virtual Sources in Wave Field Synthesis", A Hybrid WFS/Phantom Source Solution to Avoid Spatial Aliasing, Munich, Germany, Institut für Rundfunktechnik, 2002, pages 1-10.					
	4G	WITTEK, "Perception of Spatially Synthesized Sound Fields", University of Surrey - Institute of Sound Recording, Guildford, Surrey, UK, December 2003, pages 1-43.					
	4H	YOUNG, "Networked Music: Bridging Real and Virtual Space", Peabody Conservatory of Music, Johns Hopkins University, Baltimore, Maryland, 4 pages.					
	4I	"Discretizing of the Huygens Principle", retrieved July 3, 2003, from <a href="http://cas.unice.ch/~luthi/links/lin/code3.htm">http://cas.unice.ch/~luthi/links/lin/code3.htm</a> , 2 pages.					
	4J	"The Dispersion Relation", retrieved May 14, 2004, from <a href="http://cas.unice.ch/~luthi/links/lin/code4.htm">http://cas.unice.ch/~luthi/links/lin/code4.htm</a> , 3 pages.					
EXAMINER: <i>[Signature]</i> DATE CANCELLED: <i>7/26/06</i> EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 808; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.							

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